

REMARKS

Claims 1-16, 18, 20 and 21 were pending.

Claims 1 and 15 have been amended to recite a roofing product comprising a substrate coated with a top coating composition. Claim 1 has been further amended to recite a cured mixture, and further, the presence of titanium dioxide as a pigment. Claim 15 has been further amended to recite the presence of 5.0% to 14.0% titanium dioxide as a pigment.

Claims 2-14 have been amended to clarify their dependence from the roofing product of claim 1.

Claim 6 has been amended to recite the additional feature wherein the pigment further comprises calcium carbonate, colemanite, aluminum trihydrate (ATH), borate compounds or mixtures thereof.

Claim 16 has been canceled without prejudice.

Claim 18 has been amended to correct its dependence from canceled claim 16 to claim 15, and to replace the word “said” with “the” to keep the language consistent with that of the other pending dependent claims.

Claim 20 has been amended to correct its dependence from previously canceled claim 19 to claim 18.

Support for all of the claim amendments can be found throughout the disclosure of the present invention, *e.g.*, in the Specification as filed, paragraphs [0009], [0026]-[0027] and Tables 1-4. Therefore, no new matter has been added.

Claims 1-15, 18, 20 and 21 are now pending.

I. Double Patenting Rejections

Claims 1-21 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending U.S. Application No. 10/918,268 in view of U.S. Patent No. 5,968,669 to Liu et al ("Liu").

With regard to currently pending claims 1-15, 18, 20 and 21, Applicants respectfully request that this issue continue to be held in abeyance until the claims of the presently pending application have been otherwise found to be allowable. At that time, Applicants will offer to file a terminal disclaimer if appropriate.

II. Rejections Under 35 U.S.C. § 102(b)

Claims 1-5, 8, 10, 12-16, 18 and 20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0114940 to Clemens et al. ("Clemens"). Applicants respectfully traverse.

First, in view of the present cancellation of claim 16, Applicants respectfully submit that the rejection of this claim is now moot and should be withdrawn.

With regard to claims 1-5, 8, 10, 12-15, 18 and 20, independent claim 1 has been amended herein to recite the feature wherein the pigment comprises an effective amount of titanium dioxide as a pigment. Independent claim 15 has been amended herein to recite the feature wherein the pigment comprises 5.0% to 14.0% titanium dioxide as a pigment. The Final Office Action has acknowledged that Clemens does not teach or suggest these features (Final Office Action, page 8). Therefore, independent claims 1 and 15 are not anticipated by Clemens. Because claims 2-6, 8, 10, 12-14, 18 and 20 all depend from either claim 1 or 15, these claims are also not anticipated by Clemens.

For at least these reasons, Applicants respectfully submit that the rejection of these claims under 35 U.S.C. § 102(b) based on Clemens has been overcome, and should be withdrawn.

III. Rejections Under 35 U.S.C. § 103(a)

Claims 6, 7, 9, 11 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Clemens in view of U.S. Patent No. Liu. Applicants respectfully traverse.

First, the combination of Clemens and Liu does not teach or suggest the limitations of claims 6, 7, 9, 11 and 21.

Clemens does not teach or suggest each and every limitation of claims 6, 7, 9, 11 and 21. Clemens is directed to a coating system comprising: (1) an asphalt-based basecoat; and (2) a thermoplastic powder coating topcoat overlying the base coat (Clemens, Abstract). An important feature of the coating composition of Clemens is that its “basecoat” *consists essentially of “between 10 and 90% of a petroleum asphalt”* (Clemens, Abstract, emphasis added). That is, Clemens is directed to an **asphaltic coating system**. Further, the system must contain **two separate coats**; specifically, a “basecoat” (Clemens, Abstract; paragraphs [0010]-[0019]) on top of which is a “thermoplastic powder coating topcoat” (Clemens, Abstract; paragraphs [0020]-[0029]). A careful review of Clemens reveals that first, Clemens makes it clear that these two coats are separate and distinct features; and second, that neither this “basecoat” nor this “topcoat” exhibits each and every element of the compositions of the present invention.

The Final Office Action alleges that Clemens teaches that both its “topcoat” and “basecoat” teach “a cured resin” (Final Office Action, page 9). The Final Office Action cites Clemens, paragraph [0169] for this proposition.

However, Applicants respectfully submit that the portion cited in the Final Office Action is in fact describing the basecoat of Clemens, not the topcoat. A review of Clemens reveals that paragraphs [0151]-[229] discuss the basecoat (starting from paragraph [0151], which reads “Description of Preferred Manufacture, Materials, and Composition Ranges for Basecoat” and paragraph [0152], which reads, “Manufacture – Basecoat”). The description of the topcoat does not begin under paragraph [0230] of Clemens (entitled, “Description of Preferred Manufacture, Materials, and Composition Ranges for Topcoat”).

In sum, the citation of paragraph [0169] of Clemens in the Final Office Action does not establish that the topcoat includes a “cured mixture of a polymeric binder, heat expandable graphite particles, a polymeric carrier and an effective amount of titanium dioxide as a pigment,” (independent claim 1, from which claims 6, 7, 9 and 11 depend), or a “cured reaction product of a polymeric binder, heat expandable graphite particles, a polymeric carrier and 5.0% to 14.0% titanium dioxide as a pigment” (independent claim 15, from which claim 21 depends).

Further, the Final Office Action alleges that the topcoat of Clemens can include flame retardants such as expandable graphite, and “[t]herefore, Clemens discloses that the topcoat comprises expandable graphite” (Final Office Action, page 9). However, once again, Applicants respectfully point out that paragraphs [0186]-[0187], which are cited to discuss expandable graphite, are in the portion of Clemens devoted to discussion of the basecoat. Paragraph [0029] of Clemens lists “flame retardants” in a laundry list of components, with no further teaching of heat expandable graphite particles in particular as flame retardants. However, the mention of “flame retardants” in conjunction with the topcoat of Clemens is of inadequate specificity to teach or suggest what the Final Office Action alleges. Applicants respectfully submit that in the context of the topcoat of Clemens, “flame retardants” could include various other known flame

retardants such as chemical compositions that might be expected to mix well with powder topcoats such as that disclosed in Clemens. However, the portion of Clemens cited for the teaching of expandable graphite is, taken in the context of Clemens, **not directed to the topcoat**. A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); MPEP § 21410.02. As Applicants have pointed out previously, an attempt to combine a graphite (such as that alleged to be taught by Liu) with a powder topcoat of Clemens would fail, as the graphite would be unable to expand within the powder coating. An attempt to combine a graphite of Liu with a basecoat of Clemens would also fail, at least for the reason that the resultant coating composition would not be a top coat as the present claims recite. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959) (obviousness cannot be established where a “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.” *Id.* at 813, 123 U.S.P.Q. at 352).

Further, with regard to claim 21, it is acknowledged in the Final Office Action that Clemens does not teach or suggest the presence of titanium dioxide as a pigment. Nor does Liu cure the defects of Clemens. While the Final Office Action alleges that Liu teaches that “pigments such as titanium dioxide improves [sic] the appearance of the roofing material” Liu does not teach or suggest the ranges of titanium dioxide recited in claim 15 (and claim 21, which

depends therefrom). The compositions claimed exhibit superior durability, fire resistance and reflectivity over compositions known in the art. These characteristics are not achievable based on the teachings of Clemens and Liu. Therefore, there is no motivation to combine the teachings of Clemens with those of Liu, and any combination suggested would not yield the presently claimed invention.

Therefore, for at least the above reasons, Applicants respectfully submit that the rejection of these claims under 35 U.S.C. § 103(a) has been overcome, and should be withdrawn.

In view of the above amendments and remarks, Applicants believe that each of the pending claims is in condition for allowance, early notice of which is earnestly solicited. Should any outstanding issues remain, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number below.

The Director is hereby authorized to charge any fees that may be associated with this filing, or credit any overpayments, to Deposit Account No. 03-1250, Reference No. FDN-2799, Customer No. 43,309.

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